
Futronic Technology Company Ltd.

Futronic FS30 Remote Relay Unit(RRU) for FS21M or FS20

User's Guide

Version5.0

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1. Introduction

FS30 RRU is an optional accessory of FS21M /FS20. It communicates with the FS21M /FS20 through a RS232 interface. If only FS21 /FS20 is used to control the door lock, door could be open by damaging the FS21M /FS20. The purpose of FS30 is to separate the relay part from FS21M /FS20. User can keep it in a safe place and door could not be opened by damaging the FS21M /FS20 since the door lock control terminal is not connected directly to FS21M /FS20. For **FS21M**, it should be with **AVR version 4.52 or above**. For **FS20**, it should be with **AVR version 3.52 or above**.

FS30 with firmware version 1.06 or before should use FS21M with AVR version 4.60 or before / FS20 with AVR version 3.60 or before

FS30 with firmware version 2.XX should use FS21M with AVR version 4.91 or above / FS20 with AVR version 3.91 or above

2. Power Requirement

FS30 requires a switching DC 12V / 1A power supply. It is not recommended that the same power supply to be shared by both FS30 and the door strike because of the potential back E.M.F. Problem.

3. Installation

- Connect Door Switch to DS1 or DS2 of FS30. (Note:This is an active low input)
- Connect Alarm Switch to Alarm1 or Alarm2 of FS30.
- Connect COM and NO/NC. (according to the door system)
- Connect the +12V power to FS30. The Power LED will flash with red light.
- Connect the RS232 interface module to FS20/21M. Please see Fig.1 and Fig. 2.

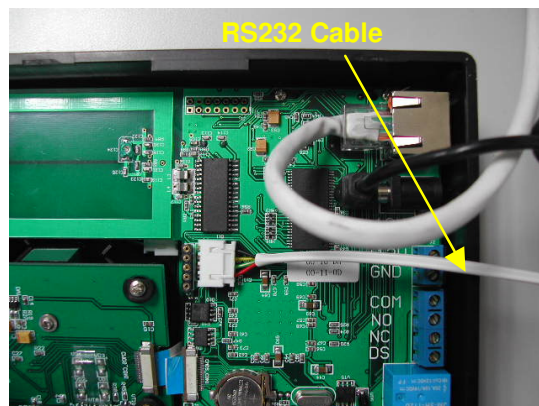


Figure 1 : Connection of RS232 Cable to FS21M

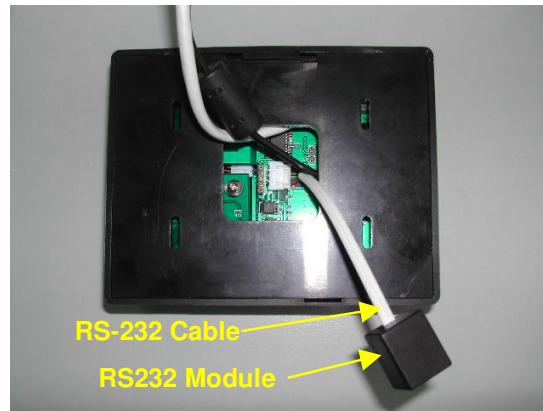


Figure 2 : RS232 Cable connected to the FS21M

- Connect the RS232 interface module to FS30 (socket marked with RS232) with the 4-wires cable. Please see Figure 3. If connection is success, the Power LED of FS30 will flash with green light.

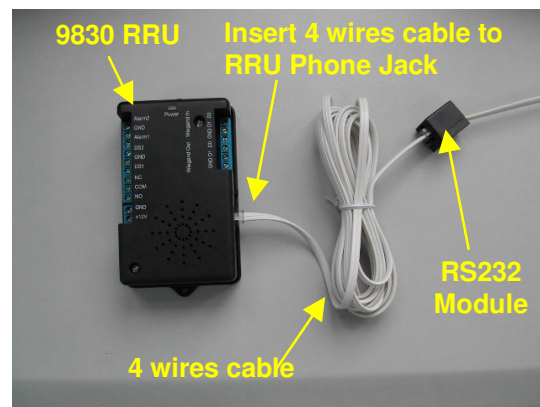


Figure 3 : RRU to RS232 Module Connection

4. Terminal Description & Features

+12V(Power Plug-in):

The power requirement is 12V DC, 50mA(idle), 1A (peak).

+12V(Screw Terminal):

This terminal has been directly connected to +12V of Power Plug-in.

GND(Ground):

This terminal has been directly connected to Ground of Power Plug-in.

COM(Common), NC(Normal Close), NO(Normal Open):

These terminals are connected directly to the internal relay, rating at 14V / 10A. If the door strike is within this current limit, it can be directly connected to these terminals. The relay activation time is set by FS21M/ FS20.

Alarm1 and Alarm2

The Alarm1 and Alarm2 trigger input. This function is default disabled when FS30 is powered on. This function could be enabled through FS21M /FS20. For details, please refer to RRU part of FS21M /FS20 manual.

DS1(DOOR SWITCH) and DS2 (DOOR SWITCH/DOOR SENSOR):

They are active low input for turning on the coil of internal relay.

DS2 can be set to be a door sensor by FS21M/FS20. When DS2 is a door sensor, FS30 will sound "do--do--do" if DS2 is active.

Volume

It is the volume control of Alarm Speaker. '2' is highest volume.

Power Indicator

If connection between FS30 and FS21M /FS20 is success, green LED will flash. Otherwise, red LED will flash.

RS232 Terminal

It is for plug in the 4-wired cable which is connected to the RS232 interface module.

Wiegand In

Type of Wiegand Input Data should be one of the following types:

- a. 32 bits CSN
32 bits CSN with msb first
- b. 34 bits CSN
32 bits CSN (bit 2 to bit 33, msb first) plus beginning and ending parity bits as Wiegand data. Bit 1 is even parity over bits 2 to 17. Bit 34 is odd parity over bits 18 to 33.
- c. 40 bits CSN
32 bits CSN(bit 1 to bit 32, msb first) plus 8 bits checksum (bit 33 to bit 40, msb first) as Wiegand data
- d. 26bit User ID (For FS30 ver 1.07 or above with FS21M AVR ver 4.61 or above/FS20 AVR ver 3.61 or above).
8 bit facility code (bit 2 to bit 9, msb first) plus 16 lower bits of User ID (bit 10 to bit 25, msb first). Bit 1 is even parity over bits 2 to 13. Bit 26 is odd parity over bits 14 to 25. Facility code must be equal to that of FS21M/FS20.

Other data format will not be recognized.

Type a, b and c are **only for FS21M**. Input data should be the CSN UID3-UID0 of MIFARE Classic 1K/4K card of Card Only User(COU). CSN UID0 is treated as LSB

FS30 will send the CSN to FS21M for recognition.

Wiegand Out

It is the same as that in FS21M /FS20. Wiegand Output type is according to the setting of FS21M /FS20. For Details, Please refer to Wiegand menu part of FS21M or FS20 manual.

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